

THE HEAVENS IN AUGUST.

Jupiter and Saturn are Seen Low in the Southeast—How to Determine the Distances of Heavenly Bodies From Each Other and the Earth—St. Andrew's Cross Formed by Six Bright Stars.

Five stars of the first magnitude will be above the horizon at 9 o'clock. They are Vega, nearly overhead; Arcturus, in the west; Spica at a low altitude between west and southwest; Antares, a little west of south, at one-fourth of the distance from horizon to zenith; Altair, at two-fifths of the distance from Vega to the southeastern horizon.

The very brilliant star seen low in the southeast is the planet Jupiter. A short distance to the right, or west of Jupiter, appearing as an orange-yellow star of the first magnitude, is the planet Saturn.

Vega stands at one corner of the Lyre. Arcturus is in the left leg of Boötes, the Herdsman. Between these two constellations lie Hercules and the Northern Crown. Between Hercules and the Pole Star is Draco, the Dragon, the two "eyes" of which are nearly in a line between Vega and the Great Dipper, now in midheaven in the northwest. At about the same altitude in the northeast is the W-shaped figure of Cassiopeia. Below Vega, between it and the eastern horizon, is the Swan or Northern Cross, and still lower, between east and northeast, the great Square of Pegasus is fairly above the horizon. Antares stands at the center of the Scorpion. Altair marks the position of the Eagle. Between the Eagle and the Square of Pegasus is the sparkling little constellation of the Dolphin, the "Job's Coffin" of modern star gazers.

This constellation is readily identified from the arrangement of its six brightest stars in the form of a St. Andrew's cross. If the lowermost of these stars is omitted the remaining five constitute a cross of the ordinary type; and, in fact, the constellation is known popularly as the Northern Cross. The northernmost of these six stars, Alpha, in the head of the Cross, tall on the Swan—is nearly up to the first magni-

tude; the remaining five are rather below the second magnitude.

The Swan, standing in the very thick of the Milky Way, occupies one of the richest star regions in the heavens, and is a splendid field for open glass survey, particularly the portion just north of the star Alpha. A large telescope brings its stars out in seemingly inexhaustible profusion, affording one of the most impressive of celestial sights. Are these stars, which shine so faintly to the naked eye their existence is revealed only by their blended light, really enormous suns, as they were assumed to be by Herschel, and as is still held by most astronomers to be the case, or may they not be comparatively insignificant bodies, at no great distance from us, as star distances go? This very interesting question is at present unanswerable; the nature of the Milky Way is still one of the most profound enigmas of the heavens.

The star Beta Cygni, which forms the foot of the Cross, the beak of the Swan, is one of the most beautiful of the colored double stars, and is, moreover, "wide" enough to be separable with an ordinary "spy-glass." It consists of an orange yellow star of the third magnitude and a smaller companion, which is deep blue.

A second double star, which, although it shows no striking contrasts of color, its components being both orange yellow and of about equal brilliancy, is still a very pretty object even for a telescope which magnifies no more than 20 or 40 times. It is of about the fifth magnitude, and is therefore, easily seen with the naked eye. Note its relation to the bright stars of the Cross, and also that it is the uppermost of a small triangle of stars of about equal brightness.

This star is the famous 61 Cygni, interesting as the first star to yield up to us the secret of its distance—or rather, as the first of which this discovery was announced, by Bessel, some 60 years ago.

The determination of star distance is

PRESIDENT ROOSEVELT'S SECOND SON



Kermit, President Roosevelt's second son, is the handsomest of the trio. He is a hardy youngster and has quite a reputation as a wrestler among the boys of his age. This snapshot was taken recently at Oyster Bay; it is the best picture of Kermit yet made.

a feat of mensuration which may well be perplexing to the unscientific reader, and a few words in explanation of this subject may be in order here. The method employed for this purpose is based upon the familiar fact that when we look at an object from two different points of view we do not see it in the same direction from each point. In consequence of the earth's revolution in its orbit round the sun the point of view from which we see the stars is shifted semi-annually about 186 million miles—the diameter of the earth's orbit.

Since the stars are at unequal distances from us, some comparatively near and others vastly more remote, there must be some shifting of their relative positions, as they are seen from our changing points of view. Let us suppose, for example, that two stars, one of which is near, while the other is at a practically infinite distance from us, are observed on Jan. 1 to be exactly in range with each other, or, in other words, to be so situated that a straight line run from the earth to the farther star passes through the nearer star. Clearly on

July 1, when the earth has half completed its annual revolution, these two stars will no longer range exactly with each other. The nearer star will be off the line, and the farther it is the greater will be its shift of position. The measurement of the amount of this shift is any given case this "parallax," as it is called—affords the astronomer, therefore, a quantity by means of which he can calculate the star's distance. Some idea of the difficulty in making the requisite observations can be formed when it is said that no star has yet been found to show a parallax as great as one second of the angular measurement. This is 1/3600 of a degree, or two straight lines, which, starting at a common point, diverge so slowly that at a distance of three and a quarter miles they are but one inch apart. In order that they should diverge to a distance equal to the radius of the earth's orbit—for the parallax of a star, as can easily be shown, is the angle which would be subtended by the radius of the earth's orbit at the distance that the star—these lines must have a length of nearly 20 million million miles, a distance traversed by light in three and one-third years.

The parallax of 61 Cygni has been determined by several observers, and by different methods, and from the mean of the different values obtained—about 0.35 seconds—it is calculated that the star's distance from us is something over 4 million million miles, or about seven "light years." There is but one star nearer to us than this, so far as is now known, namely, Alpha Centauri, a 4.3 magnitude star in the southern hemisphere; the distance of which is commonly put at four and a third "light years." The distances of about 100 stars have now been determined by this method of parallax, with a greater or less margin of uncertainty.

The August meteors, the "Perseids," as they are called, from the circumstance that their tracks radiate from a point in the constellation Perseus, will doubtless make their customary display this year. These meteors begin to make their appearance in the latter part of July and may be seen as late as Aug. 20. The traditional meteor nights, when these beautiful objects appear with their maximum frequency, are the nights of the 9th and 10th of this month. Last year, however, reports of observers in various localities all pointed to the night of Aug. 11 as that of the finest display, and probably this will be the case the present year.

These meteors—which are now known to be simply bits of stone or metal melted and consumed by the heat engendered by the friction of the earth's atmosphere, into which they plunge with enormous velocity—circle around

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the sun in a highly elliptical orbit that has been found to be identical with that of a comet, known as Comet III, 1862, and are supposed to be fragments of the comet, the results of its slow disintegration under the pull and haul of the sun. They are frequently of great brilliancy, and while a "shower," they are seen occasionally to shoot at the rate of 50 or more to the hour. At 9 p. m. the meteor radiant is now situated directly beneath the constellation Cassiopeia, in the northeast.

Mercury will not be visible during this month. Saturn, situated one hour and 20 minutes west of Jupiter, is easily recognized as an orange-yellow star of the first magnitude. Both Jupiter and Saturn are now "retrograding," or moving westward with reference to the stars seen beyond them. Uranus, still farther west, near the star Theta Opheh, appears as a star of the sixth magnitude, just within reach of the naked eye. Neptune, never visible without a telescope, is a morning star, in Gemini, a half hour west of Mars—Washington Evening Star.

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Several families in this city have been "bitten" by unscrupulous dealers, who will promise one thing and send something else. Investigation reveals the fact that the R. C. Morris Floral Co. give better value for your money, than any other dealer in the city. McCormick block and 72 East Second South. THOS. HOBDA, Mgr.

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In Deference to those who Toil, our Store will be closed Monday Labor Day.

We desire that our people have this day of Rest, to express our accord with the advanced thought of the age, that those who labor are Worthy of the Highest Consideration. BUT TUESDAY MORNING THE

GREAT EXPANSION SALE GOES ON

THE BUILDERS HAVE GONE TO WORK—IT'S ROOM, NOT PROFITS, WE'RE AFTER NOW! SIX DAYS' BUSINESS MUST BE DONE IN FIVE! PRICES REDUCED TO ACCOMPLISH IT! This will be a short Business Week—only five days—for our store will be closed Monday all day. It is our purpose in this limited time to make the sum total of sales equal, if not exceed, that of any September week in the History of our Store. To do this we realize that very exceptional values must be given, that special inducements must be made for your patronage. We are determined to do this, to make our prices so low that you will at once recognize in them advantages that must appeal to those who would save money and who at the same time, want only merchandise that may be depended upon—that is correct from a fashion point of view, and absolutely reliable from every standpoint. Read this Bargain List for this Week's Business—ONLY A SMALL FRACTION OF OUR SPECIAL OFFERINGS.

EXPANSION SALE PRICES ON

Ladies' Shirt Waists

This is the Last Call.

The Sum Total of Our Shirt Waist Stock is 75 Dozens; 900 Waists. The End Has Come.

DIVIDED AS FOLLOWS THEY MUST SELL

About 10 dozen percale and gingham waists that sold at 55c, 75c and 85c, to close at 25c

About 50 dozen white lawn, colored gingham, madras, percale and chambray waists that sold for \$1.00, \$1.25 to \$1.50, to close at 39c

About 10 dozen white lawns, mercerized gingham and printed lines that sold from \$1.50 to \$2.00, to close at 69c

About five dozen fine mercerized etamines, piques and madras that sold from \$2.00 to \$3.00, to close at 90c



THE GREAT EXPANSION SALE IN

Dress Goods== Continued.

\$1.25 Broad Cloths and Venetians, 50 and 52 inches wide, all the leading colors, EXPANSION PRICE (per yard).... 98c

75c Basket Cloths, Serges, Poplins, the new fall goods for skirts and children's dresses, 39 inches wide, and strictly all wool, in this EXPANSION SALE (per yard)..... 46c

50c Imported Henriettas, 38 inches wide, all colors. These goods are silk finished, will wash in soap and water, suitable for ladies' waists and children's dresses. EXPANSION PRICE (per yard)..... 67½c

Children's School Dresses.

A Sale of Sample Dresses at PRICES LESS THAN COST OF MANUFACTURE.

235 children's sample Dresses, best 1902 fall styles, NO TWO ALIKE, NEARLY ALL SIZES and EVERY PRICE. These are submitted to us by the manufacturers for selection of our regular fall and winter stocks, their work is done and in preference to paying return charges we are offering the entire lot at less than cost.

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Specials in Our Boys' Clothing

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We would like to have Parents of boys know that we have got a strong line of SCHOOL SUITS, the kind that wears well. MARKED DOWN TO UNHEARD OF PRICES TO INSURE A SPEEDY CLEARANCE. A GLANCE AT OUR WINDOW WILL CONVINCE YOU.

BOYS' TWO-PIECE SUITS—A broken line of suits in several patterns of medium colors and weights, ages 9 to 16 years, value, \$2.50; EXPANSION SALE PRICE \$1.50

TWO-PIECE AND THREE-PIECE SUITS—this line consists of broken sizes and small lots of the latest styles and fabrics in a variety of Tweeds, Cashmeres and Cheviots, values to \$4.00. EXPANSION SALE PRICE \$2.50

CHILD'S VESTEE SUITS—In fancy patterns, very nobby, handsomely trimmed, ages 3 to 8 years, values to \$3.00. EXPANSION SALE PRICE \$1.90

YOUTH'S LONG PANTS SUITS—In a variety of Shades and Patterns—ages 14 to 20 years, values, \$4.50 and \$5.00. EXPANSION SALE PRICE \$3.00

Two-piece Suits; some small desirable lots which must be closed out this week, a variety of patterns to select from, ages 8 to 16 years, values to \$3.50. EXPANSION SALE PRICE \$2.00

SAILOR SUITS—In Navy Blue and Oxford—good fitting, neatly trimmed and embroidered shields, very handsome garments, ages 4 to 8 years, values, \$2.50. EXPANSION SALE PRICE \$1.65

BOYS AND GIRLS' GOLF CAPS—A large assortment of Golf Caps in Navy Blue, Brown and Gray, also in fancy plaids and mixtures, values to 60c, sizes 6½ to 6¾. EXPANSION SALE PRICE 25 cts.

Childrens' School Shoes

We Can Positively save you money on Shoes This Week. Our Special Sale Prices:

Girls' Splendid School Shoes, extension sole, sizes 8½ to 11 \$1.10

Boys' Splendid School Shoes, sizes 8 to 13 \$1.25

Misses' Splendid School Shoes, extension soles, sizes 11½ to 2 \$1.35

Boys' Splendid School Shoes, sizes 13 to 2 \$1.48

Young Ladies' Splendid School Shoes, extension soles, sizes 2½ to 6 \$1.65

Boys' Splendid School Shoes, sizes 2 to 6 \$1.65

Boys' Good School Shoes, sizes 8 to 13 \$1.10

WORTH REMEMBERING. All Our School Shoes are Warranted and we make Good, any not Perfectly Satisfactory.

EXPANSION SALE PRICES ON

Shirt Waist Suits.

It's Hard For You to Realize What an Enormous Loss We Are Making to Attain Our End.



"The Derby" Brand of Shirt Waist Suits are the only ones we handled this season.

They make none under \$5.00 each. We have about 40 left; and this is how we will sell them:

MERCERIZED GINGHAM SUITS, "Gibson" Style Waists with strapped and tucked flounce skirts, that sold at \$7.50, \$10.00, \$12.50 and \$11.00. CHOICE, for \$3.98

ALL LINEN SUITS, mostly "Gibson" Effects in Tan and Gray, that sold for \$10.00 and \$12.50. CHOICE, for \$3.98

WHITE LAWN SUITS, plain "Gibson" Effects in Tan and Gray, that sold at \$7.50, \$10.00, \$12.50 and \$11.00. CHOICE for \$3.98

New White Goods.

NOW IN GREAT DEMAND FOR SCHOOL APRONS, AT EXPANSION SALE PRICES!

It seems a sin and a shame to let new goods go so cheap—but we must have room—so we let them slide this week.

White Striped Dinette, regular 10c, go this week, per yard 7c

40 inch wide White Lawn, regular 12½c. Expansion Sale Price... 9c

White Satin Striped Nainsooks, Assorted patterns, regular 22½c. Sale Price, a yard 16½c

White Satin Checked Nainsook in even and broken checks, usually 25c, go this week, per yard 18c

Carloads of Flannels AND Comforts

Piling in on us, and no place to put them, so out they go at Expansion Sale Prices!

100 pieces new Outing Flannels in light and medium colorings, lots of pretty pinks and blues. Goods valued at 10c go at, a yard 8½c

\$1.75 knotted Silkaline Comforts this week \$1.15

\$2.25 knotted Silkaline Comforts, this week \$1.65

\$2.00 knotted Silkaline Comforts, this week \$1.35

\$3.00 knotted Silkaline Comforts, this week \$2.10